



SEQUENCE LISTING

<110> CHYE, MEE LEN
XU, ZENG-FU
SIN, SUK-FONG

<120> GENTICALLY MODIFIED PLANTS EXPRESSING PROTEINASE
INHIBITORS, SAPIN2A OR SAPIN2B, AND METHODS OF USE
THEREOF FOR THE INHIBITION OF TRYPSIN- AND
CHYMOTRYPSIN-LIKE ACTIVITIES

<130> V9661.0043

<140> 10/725,829

<141> 2003-12-01

<150> 60/429,992

<151> 2002-11-29

<160> 17

<170> PatentIn version 3.3

<210> 1

<211> 529

<212> DNA

<213> Solanum americanum

<400> 1

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tgccatatgc	ccacgttcag	aaggaagtcc	ccaaaaacct	atatgcacca	attggttgctc	180
aggctataag	ggttgcaact	attacagtgc	taaaggagat	ttgatttggtg	aaggagaatc	240
tgaccctaga	aaccctaaaag	attgtacott	cgaatgtgat	acacagattg	cttattcaaaa	300
atgtcctcgt	tcagaaggaa	agatgataat	taaaccctact	ggatgcacca	cttggttgcac	360
gggctatcag	ggttgctact	atttcgatca	agatgggtgat	tttgtctgtg	aaggagagag	420
tctgaaccc	aagaccactg	cttattttcta	atcaatcata	tggtgttatc	tatcaaaaaa	480
aaatatgtat	gcatgatata	tgctgggttac	tgtaatgtgg	actttattg		529

<210> 2

<211> 148

<212> PRT

<213> Solanum americanum

<400> 2

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Trp	Met	Phe	Leu	Leu	Ala	Lys	His	Val	Asp	Ala	Lys	Ala	Cys	Thr	Arg
			20					25					30		
Glu	Cys	Gly	His	Phe	Ser	Tyr	Gly	Ile	Cys	Pro	Arg	Ser	Glu	Gly	Ser
		35					40					45			
Pro	Gln	Lys	Pro	Ile	Cys	Thr	Asn	Cys	Cys	Ser	Gly	Tyr	Lys	Gly	Cys
		50				55					60				

Asn Tyr Tyr Ser Ala Lys Gly Asp Leu Ile Cys Glu Gly Glu Ser Asp
65 70 75 80

Pro Arg Asn Pro Lys Asp Cys Thr Phe Glu Cys Asp Thr Gln Ile Ala
85 90 95

Tyr Ser Lys Cys Pro Arg Ser Glu Gly Lys Met Ile Ile Lys Pro Thr
100 105 110

Gly Cys Thr Thr Cys Cys Thr Gly Tyr Gln Gly Cys Tyr Tyr Phe Asp
115 120 125

Gln Asp Gly Asp Phe Val Cys Glu Gly Glu Ser Pro Glu Pro Lys Thr
130 135 140

Thr Ala Tyr Phe
145

<210> 3

<211> 692

<212> DNA

<213> Solanum americanum

<400> 3

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atgccaaaggc atgtacaaga gaatgtggta atcttgggta tggaatatgc ccgcgttcag	180
aaggaagtcc ggaaaatccc atatgcacga attgttgctc aggctataaa ggttgcaact	240
attatagtgc taatgggact tttatttgcg aaggaagttc tgaccctaaa aacccaaata	300
cttgcccctt attttgtgat ggagatatgt cctattcaaa atgtccccgt tcagaaggag	360
agactataat atatcccacg ggatgcacca cctgttgacac ggggtacaag ggttgctact	420
attttagtaa agaaggtgag tttgtgtgtg aaggagagag tgatgaaccc aacgttattt	480
ctaataaatg aaatgcgttg tagtttttaa tataatgtat gaaataaaaag tatgcagtac	540
ggcaatatat gataatcact atagtgtggg catcacagtt gtgctttata tgtaattact	600
aattatctga ataagagaaa aagatcatcc atgaggactt ggctcctctc cagtagtggt	660
gatctccttc ctaaaaaaaaa aaaaaaaaaa aa	692

<210> 4

<211> 152

<212> PRT

<213> Solanum americanum

<400> 4

Met Ala Val His Lys Glu Val Ser Ser Leu Ala Tyr Leu Leu Val Leu
1 5 10 15

Gly Leu Met Phe Leu His Val Ser Ala Val Lys His Val Asp Ala Lys
20 25 30

Pro Cys Thr Arg Glu Cys Gly Asn Leu Gly Tyr Gly Ile Cys Pro Arg
35 40 45

Ser Glu Gly Ser Pro Glu Asn Pro Ile Cys Thr Asn Cys Cys Ser Gly
50 55 60

Tyr Lys Gly Cys Asn Tyr Tyr Ser Ala Asn Gly Thr Phe Ile Cys Glu
 65 70 75 80
 Gly Ser Ser Asp Pro Lys Asn Pro Asn Thr Cys Pro Leu Phe Cys Asp
 85 90 95
 Gly Asp Ile Ala Tyr Ser Lys Cys Pro Arg Ser Glu Gly Glu Thr Ile
 100 105 110
 Ile Tyr Pro Thr Gly Cys Thr Thr Cys Cys Thr Gly Tyr Lys Gly Cys
 115 120 125
 Tyr Tyr Phe Ser Lys Glu Gly Glu Phe Val Cys Glu Gly Glu Ser Asp
 130 135 140
 Glu Pro Asn Val Ile Ser Asn Gln
 145 150

<210> 5
 <211> 26
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of artificial sequence: Synthetic
 primer

<400> 5
 ctccatcaca aaataagggg caagta

26

<210> 6
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of artificial sequence: Synthetic
 primer

<400> 6
 gctcgaagac gatcagatac c

21

<210> 7
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of artificial sequence: Synthetic
 primer

<400> 7
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21

<210> 8
 <211> 11
 <212> PRT
 <213> Artificial sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide corresponding to amino acids 77-87 of
 SaPIN2a

<400> 8
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<210> 9
 <211> 14
 <212> PRT
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<220>
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 peptide corresponding to amino acids 139-152
 of SaPIN2b

<400> 9
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 1 5 10

<210> 10
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
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<400> 10
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25

<210> 11
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>
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<400> 11
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29

<210> 12
 <211> 56
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of artificial sequence: Synthetic
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<400> 12
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<210> 13
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 <212> DNA
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<220>
 <223> Description of artificial sequence: Synthetic
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<400> 13
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<210> 14
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of artificial sequence: Synthetic
 primer

<400> 14
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<210> 15
 <211> 78
 <212> DNA
 <213> Artificial Sequence

<220>
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 oligonucleotide

<400> 15
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 tcgaccataa tggctgtt 78

<210> 16
 <211> 5
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 16

His His His His His
1 5

<210> 17

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 17

Gly Val Gly Val Pro
1 5